Docket: 10017862-1

REMARKS

The application is on a first office action following a first request for continuing examination, with claims 21-29 pending. The Examiner has rejected claims 21-26 and 28 under 35 U.S.C. 103 as unpatentable over U.S. Patent 6,834,340 to Lee, et al., in view of U.S. Patent publication 2002/0091807 to Goodman in further view of U.S. Patent 6,665,813 to Forsman, et. al.. The Examiner has rejected claims 27 and 29 under 35 U.S.C. 103 as unpatentable over U.S. Patent 6,834,340 to Lee, et al., in view of U.S. Patent publication 2002/0091807 to Goodman.

The Examiner has objected to the abstract as overly long.

The Amended Claims

Claim 27 has been amended to remove redundancies in the claim. Its scope is effectively unaltered. Typographical errors have been corrected in claims 28 and 29.

The New Claims

Claim 30 has approximately the scope of former claim 22 but has been rewritten in independent form and the difference in the roles of the slow management and high-speed interconnects has been clarified.

Claim 31 has approximately the scope of former claim 23 but has been rewritten in independent form and the difference in the roles of the slow management and high-speed interconnects has been clarified.

Claim 32 has approximately the scope of former claim 25 but has been rewritten in independent form and the difference in the roles of the slow management and high-speed interconnects has been clarified.

Claims 33-36 claim a method claim for performing firmware update. This method claim embodies steps corresponding to many of the whereas clauses of the other claims of the application, operating on hardware similar to that described in the other claims.

The Abstract

A new abstract is provided herewith that is significantly shorter than the former abstract.

The Cited Art, as a Whole, Cannot Lead to the Claims

For a claim to be obvious under 35 U.S.C. $ 103 over cited art, it is generally required that the one or more references of cited art provide each element of the claim, and that there be some hint or suggestion in the cited art that the elements be combined. Further, obviousness under 35 U.S.C. $ 103 typically does not exist where the cited art teaches away from the claims.

The Cited Art Fails to Disclose Elements of the Claims

The claims not only require that a *physical* management processor be present in each cell, but include clauses (including whereas clauses) that *specify particular actions* that the cell *management processors* must *contain machine readable code for performing*.

The claims anticipate management processor machine readable code, or management processor firmware, that resides in the cell manageability subsystem 214 and controls operation of the cell manageability subsystem. This is distinct from the cell operational firmware 210, for execution on primary procesors, that normally resides in the firmware storage element 210.

In particular, the apparatus claims require that machine readable code be provided in the *management processors* of the cells for coordinating *over the physical management interconnect* transfer of the cell operational firmware *over the physical high-speed interconnect*. The cited art does not provide these elements, nor are they inherently obvious from the cited art. In particular, none of the cited art teaches use of management processors or management interconnect for controlling transfer of anything -- let alone firmware -- over the high-speed interconnect.

In addition, while the cited art clearly provides for multiple processors, only a single management processor without responsibility for coordinating firmware transfer can be found in Lee and thus in the cited combination.

While the Examiner has hypothesized that Lee's singular management processor would be divided among partitions in Lee's system, this is unlikely. In most virtually-partitioned systems like Lee, management functions--such as cooling system control--are either invisible at the partitioned operating system level, or--such as battery charging, charge monitor, and other power supply functions that may require interaction with an operating system--are allocated to a single, master (or hypervisor in the cited art) instance of the operating system for control.

Lee clearly contemplates such a master operating system instance in his discussion of a hypervisor. Allocation of these functions to a master system is typically done to prevent conflicts in control of functions, such as battery chargers and cooling fans, that can not be effectively partitioned by time-sharing.

Even were Lee, or Lee with Forsman, be taken as providing multiple management processors to the cited combination, the entire combination taken as a whole fails to disclose the claimed handshaking by management processors over management interconnect to set up firmware transfer over a separate, high-speed, interconnect.

The Cited Art Combined Teaches Away From the Claimed Device and Method

Goodman discloses a system having a plurality of cells. In this system, the cells collaborate at boot time to determine which cell has the most current firmware. This most current firmware is then transferred from the cell having it into any other collaborating cells that have older versions of firmware.

Since the only processor disclosed in Goodman are primary processors (22a, 22b, 22c, 22d) of the cell, Goodman effectively teaches that the decisions as to what firmware is the most current, and control of transferring this firmware to other cells of the system, should be performed by one or more primary processors of the cell, thereby teaching away from performing these functions in a management processor. It should be noted that primary processors are ordinarily many times faster than management processors.

While it is true that a 'service processor' exists in Lee, and hence in the cited combination, Lee fails to teach that firmware update should be performed or

controlled by a 'service processor' *of the cell.* The combination therefore implies that update should be coordinated and performed by primary processors.

Conclusion

As has been shown in the remarks above, the Examiner's cited taken separately or as a whole is insufficient for rejecting the amended claims under 35 U.S.C. § 103 because it both fails to provide certain elements of the claims, and teaches away from elements of the claims. The Examiner is therefore respectfully requested to reconsider the application, as amended, in light of these remarks.

The Commissioner is authorized to charge a fee of $400.00 for two extra independent claims to deposit Account No. 08-2025. Applicants believe no other fees are currently due, however, if any other fee is deemed necessary in connection with this Amendment and Response, please charge Deposit Account No. 08-2025.

Respectfully submitted,

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